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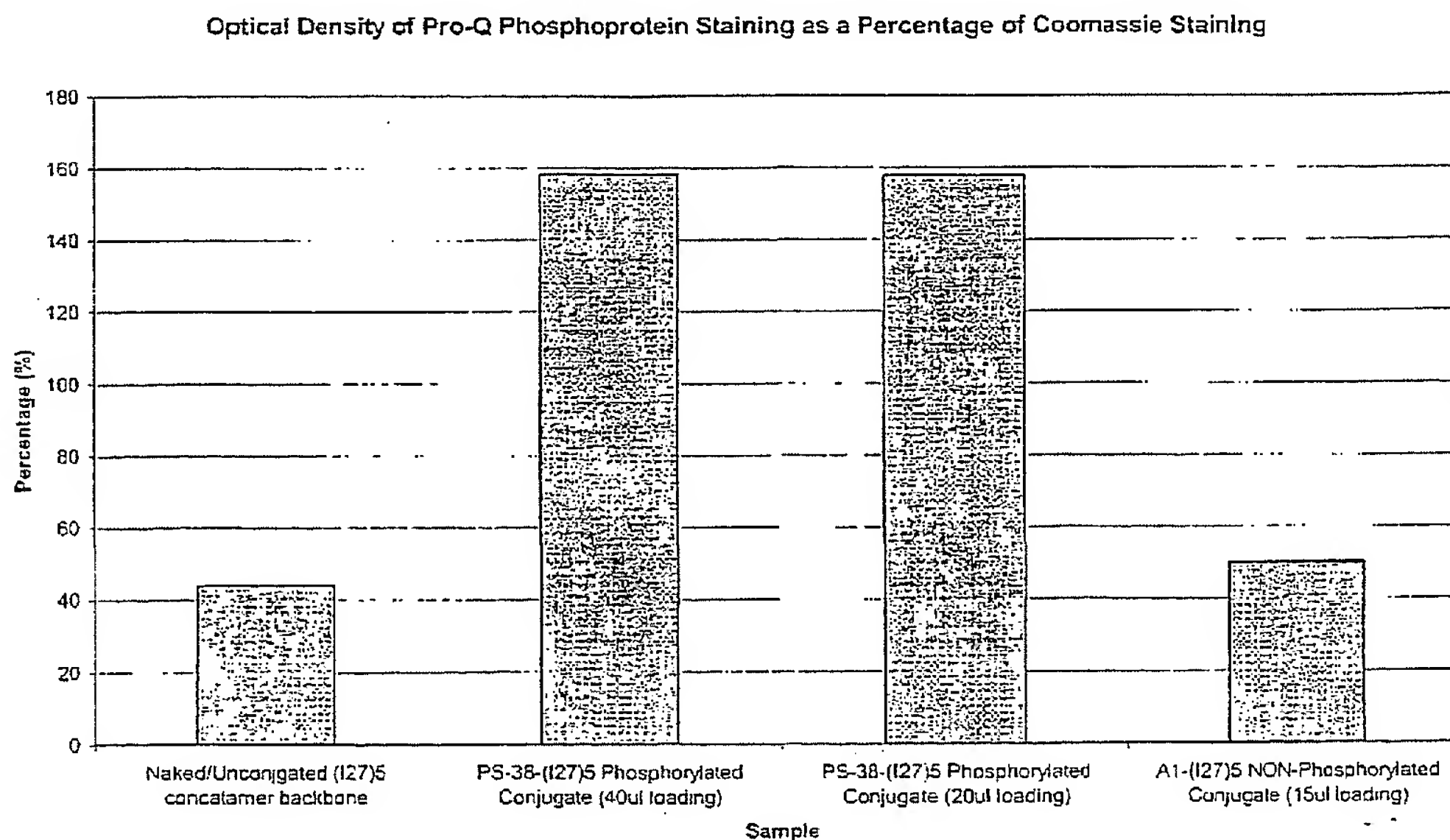
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- (74) Agent: HARRISON GODDARD FOOTE; Belgrave Hall, Belgrave Street, Leeds LS2 8DD (GB).
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[Continued on next page]

(54) Title: AGENTS FOR AND METHOD OF QUANTIFYING BINDING



(57) Abstract: The present invention provides a presentation system and method of use for quantifying a target moiety in a sample which may contain the target moiety, the method comprising using a specified concentration or varying the concentration of a presentation system in order to generate a comparison point or calibration curve which provides means for comparing a signal generated by the presentation system and a signal generated by a sample, wherein said presentation system comprises at least one copy of said target moiety or part thereof covalently attached to a domain of a scaffold wherein the domain is non-reactive to a binding partner specific to said target moiety.

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Declaration under Rule 4.17:

— *of inventorship (Rule 4.17(iv)) for US only*

Published:

- *with international search report*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

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13 October 2005

INTERNATIONAL SEARCH REPORT

Int'l Application No
PCT/GB2005/000015

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 G01N33/96 G01N33/68

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, BIOSIS, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	BROCKWELL ET AL: "The effect of core destabilisation on the mechanical resistance of I27" BIOPHYSICAL JOURNAL, vol. 83, July 2002 (2002-07), pages 458-472, XP002323667 cited in the application page 459, right-hand column, line 17 - line 23 ----- -/--	1-57

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

29 June 2005

Date of mailing of the international search report

04/08/2005

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INTERNATIONAL SEARCH REPORT

Inter I Application No
PC1/GB2005/000015

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	COLYER ET AL: "Critical evaluation of cardiac Ca ²⁺ -ATPase phosphorylation on serine 38 using a phosphorylation site specific antibody" JOURNAL OF BIOLOGICAL CHEMISTRY, vol. 279, no. 17, April 2004 (2004-04), pages 17111-17119, XP002323668 cited in the application the whole document	1-57
X	BRETE ET AL: "Biphasic effects of hyposmotic challenge on excitation-contraction coupling in rat ventricular myocytes" AM.J.PHYSIOL.HEART CIRC. PHYSIOL, vol. 279, 2000, pages H1963-H1971, XP002323669 cited in the application page H1965, left-hand column, paragraph 2	1-57
A	WO 01/64942 A (PHYLOS, INC; LIPOVSEK, DASA; WAGNER, RICHARD, W; KUIMELIS, ROBERT, G) 7 September 2001 (2001-09-07) the whole document	1-57

INTERNATIONAL SEARCH REPORT

In **national application No.**
PCT/GB2005/000015

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.2

Claims Nos.: -

The present claims relate to a presentation system comprising an extremely large number of possible target moieties and scaffolds and combinations thereof. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the target moiety/scaffold combinations. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely those parts relating to the use of A1, PS38 (SERCA2a) or PT17 as target moiety and scaffold proteins comprising the I27 or I39 domain(s).

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

INTERNATIONAL SEARCH REPORT

Inter: Application No
PCT/GB2005/000015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 0164942	A	07-09-2001	US 6818418 B1 16-11-2004
		AU 4185001 A	12-09-2001
		CA 2400058 A1	07-09-2001
		EP 1266025 A1	18-12-2002
		JP 2003525487 T	26-08-2003
		WO 0164942 A1	07-09-2001
		US 2005038229 A1	17-02-2005